

EIC Users Group activities; identify and set up topical groups

Electron Ion Collider User Group Meeting
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EIC Users Group activities: A Path Towards building a Strong and Vibrant Community

- ① What are the short term goals of the EIC User Group (EICUG) in preparation for the NAS Review and CD0?
- ① What do we need to do to achieve these goals?
- ① How to energize a large number of users to participate in the process?

What are the short term goals of the EIC User Group (EICUG) in preparation for the NAS Review and CD0?

- ① The white paper contains an excellent physics case with several topics but are we missing high impact/discovery topics and topics that reach across physics communities?

Examples:

- ➡ Spectroscopy
- ➡ Jets in nuclei
- ➡ QCD nature of the N-N repulsive core

Jan-Wei Qiu, Justin Stevens

Ivan Vitev

Misak Sargsian

What are the short term goals of the EIC User Group (EICUG) in preparation for the NAS Review and CD0? - continued

- ⊙ Are we confident that we can pass a critical scientific and technical review from a “Blue-Ribbon Panel” ?
- ⊙ Do we need to address specific issues/challenges for the National Academy of Science (NAS) review ?

Addressing these questions or others will require organizing our effort

Topical Groups?

White Paper topics

① Spin and Three-Dimensional Structure of the Nucleon

- ➡ The longitudinal Spin of the Nucleon
- ➡ Confined Motion of Partons in Nucleons
- ➡ Spatial Imaging of quarks and Gluons

① The Nucleus: A laboratory for QCD

- ➡ Physics of High Gluons Densities in nuclei
- ➡ Quarks and Gluons in the nucleus
- ➡ Connections to p+A, A+A and Cosmic Ray Physics

① Possibilities at the Luminosity Frontier:

- ➡ Specific Opportunities in Electroweak Physics

② The Accelerator Design and Challenges

② The EIC detector Requirement and design Ideas

Proposed Model to move forward with Topical Groups and to Expand the Involvement of the Users

- ⊙ For each topic in the white paper add one more convener and form a topical group with a total of three conveners
- ⊙ For new topics choose conveners, preferably three
- ⊙ Each topical group within the next year should organize a workshop
- ⊙ All topical groups work towards the “EIC Physics Book” an equivalent to a “[BaBar Physics Book](#)”

A book that presents the results of a year-long workshop (devoted to a review of the physics opportunities of the BABAR experiment at the PEP-II B Factory, at the Stanford Linear Accelerator Center Laboratory.

J/Psi Photoproduction/Electroproduction

Photoproduction cross section - LO and NLO

J. Wagner

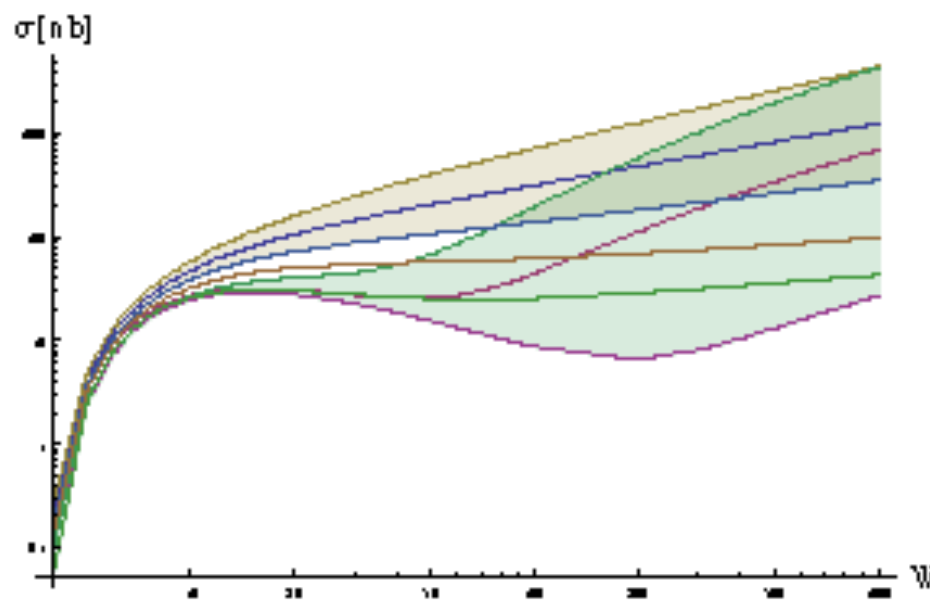


Figure : Photoproduction cross section as a function of $W = \sqrt{s_{\gamma p}}$ for $\mu_F^2 = M_{J/\psi}^2 \times \{0.5, 1, 2\}$ - LO and NLO. Thick lines for LO and NLO for $\mu_F^2 = 1/4 M_{J/\psi}^2$.

